

General Installation Notes on Converters

Output of standard converters differs from 3 phase utility in that only the L3 phase is 240V when measured to Neutral or Earth. L1 and L2 are generated by the converter, while L3 is actually connected directly to the incoming supply.

Approximate Neutral & Earth to Phase Voltages: L1=160V L2=360V L3=240V

Converters are primarily designed for 3 phase loads and phase to phase voltages reflect this.

MACHINE CONNECTIONS – IMPORTANT (also refer to Installation Manual)

Each machine connected to a converter needs to be checked and if necessary slightly modified to work with the output of a converter. A competent electrician is recommended.

For machines WITHOUT a neutral connection: All control circuits and 415V single phase loads MUST be between the L1 and L3 legs, including internal step down transformers. You can reference to earth to measure voltages in control circuits. If you measure 360V anywhere, you know you are connected to the L2 phase, and some wiring changes are needed.

For machines WITH a neutral connection: The Neutral is being used to power a single phase load somewhere on your machine. It may be the control circuit, lighting, small motor, digital controller or display. It is CRITICAL that whatever the single phase load is, it must only be connected to the L3 phase of the converter. In addition, any 415V single phase loads must be between the L1 and L3 legs.

For Converters fitted with Optional Neutral Balancing Transformer (and PC2 and PC3 models):

This option creates a new neutral point between the output phases of the converter, so approx. 240V is present between the new output neutral and each phase. However, there are limitations as neutral current is limited to approx. 2 amps (3 amps optional) and is only there for running smaller 240V loads like control circuitry, solenoids etc. If the machine being connected has a requirement for larger neutral currents, for example a heating bank, the machine should be connected to the incoming supply neutral, and follow the guidelines as shown for a standard converter.

Special Note on Phase Changer 2 and Phase Changer 3 models (from May 2014). PC2 and PC3 converters have are designed as plug-and-play and have a centered neutral output as standard, so all phase to neutral voltages will be approximately 240V. Note that Neutral output current should be limited on these models to 1amp only. If more is required, please consult Phase Change Converters. Other installation guidelines still apply as detailed above.

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